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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Patrick Johannes Blom et al.
Serial No.: 10/069,263
Art Unit: 1774
Filed: June 19, 2002
Title: TRANSFER LABEL
Examiner: Tamara L. Dicus
Docket No.: 34434

DECLARATION OF PATRICK JOHANNES BLOM

Patrick Johannes Blom declares as follows.

1. I presently reside at Jan Kaldernansstraat 9, 2321 EZ Leiden, The Netherlands
2. I am one of the inventors of the above-referenced U.S. Patent Application Serial No. 10/069,263, filed on June 19, 2002.
3. My educational background is as follows: MSc in Environmental Chemistry, Rijks Universiteit Leiden, located at Leiden, The Netherlands, 1992.
4. My work experience and training is as follows: 1992-1993 Royal Dutch Shell Exploration Laboratories. Since 1993 I have worked for Heineken Technical Services B.V., the assignee of the above-referenced patent application, the first three years in Detachment from Randstad BV. My function within Heineken Technical Services is Scientist, specialist in decoration techniques and technologies. My duties for Heineken have included the development of different Image Transfer projects since 1996.
5. I am familiar with the subject matter of the above-referenced U.S. Patent Application Serial No. 10/069,263. As a co-inventor of the above-referenced patent application, I participated in the research and development leading up to the patent application and am familiar with the problems described in the patent application and also with the solution to those problems as set forth in the patent application, including the Examples set forth therein. The following statements are based upon this background and experience and my working in this field and my participating in the aforementioned research and development, including the Examples.

6. Surprisingly and unexpectedly, when aluminum powder is included in the opaque layer described in the patent application at a weight percent of 0.1 to 5 weight percent, calculated on the basis of the opaque layer, the opacity of the opaque layer is surprisingly and unexpectedly improved as described in the above-referenced U.S. Patent Application Serial No. 10/069,263. As described in the Examples on pages 6-7 of the patent application, even if a maximum amount of a conventional white pigment such as TiO_2 is used, the underlying printing could be visually noticed through the opaque layer. Surprisingly and unexpectedly, when a small amount of aluminum powder (0.6 weight percent), based on the weight of the opaque layer, was added to the pigment, the label was completely opaque and the existing printing could not be visually noticed through the opaque layer. These results were dramatic, surprising, and unexpected.

7. It is clear that, as an opacifying agent, titanium dioxide, calcium carbonate and/or zinc oxide are not interchangeable with aluminum powder. These four opacifying agents do not provide interchangeable results; when aluminum powder is added in small amounts to a pigment, such as one of titanium dioxide, calcium carbonate and zinc oxide, the results are surprisingly and unexpectedly better than when any of the other three is used. This is clear from the examples set forth above. Using any of titanium dioxide, calcium carbonate and/or zinc oxide in an opacifying layer will not effectively mask the underlying printing, while the addition of a small amount of aluminum powder (0.1-5 weight percent) to a pigment, such as titanium dioxide, calcium carbonate or zinc oxide, will effectively mask the underlying printing. It is also important that the weight percent of aluminum powder added to the opaque layer not be greater than 5 weight percent. When the aluminum powder is added at a weight percent greater than 5 weight percent, the color of the opaque layer is negatively and unacceptably affected; a white opaque layer will become unacceptably gray and a colored opaque layer will also become unacceptably grayish. A second problem with greater than 5 weight percent aluminum powder is that if the label is removable, the label has loss integrity; the image layer will tend to delaminate from the opaque layer. When the removable label is removed in a washing procedure, the image layer will tend to separate from the opaque layer, resulting in the release of a number of thin pieces of image layer unattached to opaque layer, rather than image layer attached to the opaque layer. The result will be more pieces and thinner pieces of released material which are harder to remove from the wash water. Surprisingly and unexpectedly, these problems are avoided or minimized when the present invention is utilized.

8. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the patent application or any patent issued thereon.

December 12, 2003
Date


Patrick Johannes Blom